



HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
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November 16, 2009

## TECHNICAL STAFF REPORT

*Planning Board Meeting of December 3, 2009  
County Council Hearing to be scheduled*

**Petitioner:** Director, Department of Planning and Zoning and the County Executive

**Request:** Approval of the Water Resources Element Amendment to General Plan 2000

**Department of Planning and Zoning Recommendation:**

**Approval**

### I. BACKGROUND INFORMATION

In accordance with Maryland legislation passed in 2006, HB 1141 Land Use – Local Government Planning, local jurisdictions are required to adopt a water resources element in their comprehensive plans. The intent of the water resources element is to ensure a safe and adequate supply of drinking water, and adequate land and water capacity for the treatment of wastewater and stormwater, to support future growth. The water resources element must be adopted by October 1, 2009; however, the Maryland Department of Planning may grant up to two six-month extensions. Howard County requested and was granted one six-month extension to allow adoption by April 1, 2010.

The General Plan 2000 currently contains numerous Policies and Actions related to the protection and restoration of water resources in four separate chapters. The Responsible Regionalism chapter addresses cooperation for regional protection of water resources, Preservation of the Rural West addresses groundwater and septic systems, Balanced and Phased Growth addresses the adequate supply of drinking water and wastewater treatment capacity, and Working with Nature addresses environmental stewardship, the protection of streams and wetlands, and stormwater management. The Howard County Water Resources Element (WRE) is an amendment to General Plan 2000 that incorporates and updates relevant Policies and Actions from General Plan 2000 and adds new Policies and Actions. These Policies and Actions are intended to help the County meet an overarching goal of managing our water resources more sustainably.

Growth projections for the WRE were developed in 2008. These projections extend to the year 2030 and are based on the General Plan 2000. The WRE projections were modified to address potential requests for new development or redevelopment in Columbia Town Center, the Village Centers and Doughoregan Manor. The growth projections were used to estimate future demands for water and sewer services, and to estimate the impacts on water quality in local streams and reservoirs from future land use changes.

## **II. SUMMARY OF THE WATER RESOURCES ELEMENT**

The WRE is divided into two major topics – Drinking Water and Wastewater, and Water and Related Land Resources. The following presents a summary of the discussion for each topic and the related Policies and Actions.

### **Drinking Water and Wastewater**

The water for Howard County's public water supply system is purchased from Baltimore City and the Washington Suburban Sanitary Commission (WSSC). More than 95% of the County's public water supply is provided through the Baltimore City Central System and less than 5% is provided by WSSC. The supply of public water is not expected to be a constraint on projected growth and development within the Planned Service Area (PSA) through the year 2030. Outside the PSA, there is generally an adequate supply of good quality groundwater to serve projected demand from individual and community wells.

To manage water resources more sustainably, the WRE includes a Policy with related Actions to ensure the safety and adequacy of the drinking water supply, and to promote water conservation and reuse. This includes an Action to increase support for the Baltimore and Patuxent Reservoirs interjurisdictional watershed protection efforts, to maintain the high quality of these drinking water supply sources.

Wastewater treatment within the PSA is provided by the Little Patuxent Water Reclamation Plant (WRP), which is owned and operated by Howard County, and the Patapsco Wastewater Treatment Plant (WWTP), which is owned and operated by Baltimore City. The service areas for these plants are largely defined by the natural drainage areas for the Patuxent and Patapsco Rivers. Capacity at the plants is expected to be adequate to meet projected growth and development within the PSA through the year 2030.

To meet Chesapeake Bay cleanup goals, Maryland has established annual nutrient (nitrogen and phosphorus) loading caps for all major wastewater treatment plants in the State. Once flows at the Little Patuxent WRP exceed the amount used to establish this cap, the plant must maximize treatment to ensure the cap is met. Capacity at the Patapsco WWTP may be reduced once treatment at the plant is upgraded to meet the cap, which may in turn reduce the County's capacity allocation at the plant.

The nutrient caps must be maintained to help restore the health of the rivers and the Bay, into which the plants discharge, while ensuring the County has adequate wastewater treatment capacity to allow continued growth. The WRE includes a Policy and related Actions to ensure the adequacy of wastewater treatment capacity. To help maintain the nutrient cap at the wastewater treatment plants, this includes an Action to require that development on properties added to the current PSA, large redevelopment sites within the PSA and large sites with zoning intensification within the PSA, minimize increases in flow and the nutrient concentration in flow sent to the plants. This can be achieved through a combination of water conservation and reuse, and on-site treatment of wastewater. In addition, the WRE contains an Action to expand wastewater reuse and investigate options for nutrient trading.

Outside the PSA, County soils are generally capable of supporting individual and shared septic fields. However, standard septic systems are not designed to remove nitrogen, which is a water quality concern. To reduce nitrogen loads to groundwater and surface water, the WRE contains a Policy and related Actions to encourage the use of nitrogen reducing treatment for new and upgraded septic systems.

## **Water and Related Land Resources**

The County develops watershed management plans to set priorities and guide efforts to protect, restore and improve the County's water resources. These efforts help the County meet Federal and State requirements to improve water quality. Most water bodies in the County have degraded water quality and habitat for aquatic life, although there are also stream segments with excellent water quality and habitat. The watershed management plans have generated an extensive list of restoration projects that far exceeds the current capital budget for these projects. It is easier and more cost effective to protect high quality resources in a watershed than to allow resources to become degraded and then attempt restoration. To manage water resources more sustainably, the County should strengthen resource protection measures and enhance watershed restoration efforts.

The WRE includes a Policy and related Actions to improve stormwater management practices throughout the County to help restore and protect water resources. New State stormwater management regulations increase pollutant removal, groundwater recharge and stream channel protection requirements for new development and redevelopment. The WRE includes an Action for Howard County to adopt these new regulations, as required by State legislation. The WRE also includes an Action to ensure that stormwater management facilities, which will increase significantly in number as a result of the new stormwater management regulations, are inspected regularly and maintained over time.

The WRE includes a Policy and related Actions to ensure development regulations adequately protect water resources. This includes an Action to strengthen buffer requirements to enhance the protection of streams, wetlands and floodplains. Development regulations must be properly implemented and enforced to be effective. The WRE includes an Action to ensure there are adequate resources to monitor and enforce development regulations, and to effectively educate developers and contractors.

The WRE includes a Policy and related Actions to continue to use watershed management plans to guide the protection and restoration of water resources. This includes an Action to make the Middle Patuxent River watershed a priority for future study, because it is projected to have the largest percentage of the County's future land use change. Additional Actions expand watershed management plans to address wetland resources and establish goals for forest cover and riparian forest buffers. In addition to watershed planning and management for our local water resources, it is also important to remember that the County is part of the larger Patuxent and Patapsco River basins. The WRE includes a Policy and Action to coordinate regional protection of water resources.

The majority of land in the County is privately owned, so implementing best management practices (BMPs) on private residential, business and agricultural property is critical to improving water quality and habitat. The WRE includes a Policy and related Actions to encourage environmental stewardship. This includes an Action to initiate new and expand current outreach and education efforts to increase BMP implementation on private property. The County can also provide leadership in BMP implementation by incorporating environmentally sensitive site development and property management practices into County activities.

If the County wishes to increase the pace of watershed restoration, expanding outreach and education to increase the implementation of best management practices on private properties, additional funding is needed. The Policy addressing the use of watershed management plans includes an Action to institute a dedicated fund to provide increased and sustained funding for the watershed management program, which is anticipated to continue to expand and evolve in response to Federal and State regulatory requirements.

### III. AGENCY COMMENTS

As part of the preparation process, the Water Resources Element was reviewed by the Departments of Public Works and Recreation and Parks, the Health Department and the Office of Environmental Sustainability. Comments received from these agencies were incorporated into the Water Resources Element.

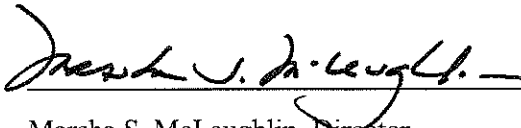
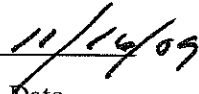
### IV. EVALUATIONS AND CONCLUSIONS

#### Relation to the General Plan

The Water Resources Element is an amendment to the General Plan 2000.

### V. RECOMMENDATION

For the reason noted above, the Department of Planning and Zoning recommends APPROVAL of the Water Resources Element Amendment to General Plan 2000.

   
Marsha S. McLaughlin, Director Date

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**NOTE: The file on this case containing the full Water Resources Element amendment is available for review at the Public Service Counter in the Department of Planning and Zoning.**